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KM 10/13/92

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 LABORATORY
7411 BEACH DR. EAST
PORT ORCHARD, WASHINGTON 98366

October 13,1992

MEMORANDUM

SUBJECT: Report of Data Validation of BNA's for the Avery Railroad Project, Water Samples 92352351, 92352352, 92352353 and 92352354.

FROM: J. Blazevich, Program Manager
Analytical Chemistry Program

TO: Monica Rolluda, Project Officer
Avery Railroad Project

CC: BRUCE WOODS
KARA STEWARD

The following is a QA data review of the BNA analysis of water samples collected for the Avery Railroad project and performed at the Manchester Laboratory. This review covers the following samples:

92352351 92352352 92352353 92352354

The project code for these samples is TEC-575A and the account number is 2TFA10PUZZ.

Data qualifications

The following comments refer to laboratory performance meeting the Quality Control specifications outlined in the "CLP Statement of Work, Organic Analysis, revision 1/91."

I. Holding Times: Acceptable

All samples were held seven days or less between collection and extraction. All extracts were held less than forty days between extraction and analysis. No data qualifiers were required due to exceeding holding times.

II. GC/MS Tuning and Performance: Acceptable

The tuning summary agreed with the raw data. All decafluorotriphenylphosphine ion abundance met criteria. All sample analyses were preceded by a tune less than 12 hours prior to analysis. No data qualifiers were required on the basis of tuning data.

III. Initial Calibration: Acceptable

An extended seven point calibration curve was constructed for most target analytes on 1/17/92. The calculation of the relative response factors was checked and the calculation method was correct. All analytes met the SPCC criterion (0.05). The %RSD exceeded 30% for six targets, N-nitrosodiphenylamine, benzoic acid, 4,6-dinitro-2-methylphenol, 2,4-dinitrophenol, carbazole and di-n-octyl phthalate. Each were given the data qualifier J or UJ. All other response factors and %RSDs were acceptable.

IV. Continuing Calibration: Acceptable

9/28/92 Sample 92352351, 92352352, 92352353, 92352354, Matrix Spikes 92352353Y, 92352353Z and Blanks EBW2245D1, EBW2245D2.

The response factors for all compounds were above 0.05 except 3-nitroaniline a had response factor of 0.032. All negative results for this analyte were qualified as unusable, R. Eight compounds, benzyl alcohol, 2,6-dinitrotoluene, 4-chloro-3-methylphenol, diethyl phthalate, di-n-butyl phthalate, carbazole butylbenzyl phthalate, and bis(2-ethylhexyl) phthalate, had %diff. values greater than 30%. All values for these analytes were given the qualifier J or UJ. No additional qualifiers were required on the basis of response factor or %diff.

V. Blanks: Acceptable

Two blanks were analyzed with the samples. Common laboratory contaminates, N-nitrosodiphenylamine and bis(2-ethylhexyl) phthalate along with low concentrations of naphthalene, 2-methylnaphthalene, 1-methylnaphthalene, acenaphthalene and phenanthrene, were detected. These analytes were reported in the samples only if the associated integrated areas exceeded those found in the corresponding blank by ten times. No data qualifiers were required based on blank results.

VI. Surrogates: Acceptable

All surrogate recoveries were within specification for all blanks, spikes and samples except for the diluted sample extract of 92352354. Since the extract was diluted, some of the surrogates were not detected. No data qualifiers were required.

VII. Matrix Spike/Matrix Spike Duplicate: Acceptable

Recoveries of most MS/MSD analytes were within CLP and/or Region Ten guidelines. One or both spike recoveries for four analytes, hexachloroethane, hexachlorocyclopentadiene, benzoic acid and 3-nitroaniline, were outside the 50-150% Region Ten acceptance window. All values for these analytes were given the qualifier J or UJ for the corresponding sample, 92352353. No

additional data qualifiers were required on the basis of MS/MSD results.

VIII. Internal Standard Performance: Acceptable

The retention time variations of all internal standards were within 30 seconds of the daily standard which is acceptable. The %area of all the internal standards fell within the 50-200% acceptance window. No data qualifiers were required on the basis of internal standards data.

IX. TCL Compound Identification: Acceptable

All detected TCL compounds' relative retention times were within acceptable limits of the related standards in the continuing calibration standard. Criteria were met for mass spectral ion matching and ion abundance matching or the mass spectra were judged acceptable.

X. Compound Quantitation: Acceptable

Compound quantitation was evaluated correctly. The appropriate internal standards were used. The correct quantitation ions and relative response factors were used. Some analytes were detected in this sample set at levels below the lowest calibration concentration of the initial calibration curve. Since the Practical Quantitation Limit is based on this lowest initial calibration standard, these values were assigned the J qualifier. No additional qualifiers were required on the basis of compound quantitation.

XI. Tentatively Identified Compounds: Acceptable

Spectra for all tentatively identified compounds met criteria for mass spectral ion matching and ion abundance matching or the mass spectra were judged acceptable. Some unknown compounds were detected.

Overall Assessment for the Case

The usefulness of the data is based on the criteria outlined in the "Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses (6/91)."

All requirements for data qualifiers from the preceding sections were accumulated. Each sample data summary sheet and each compound were checked for positive or negative results. From this the overall need for data qualifiers for each analysis was determined. In cases where more than one of the preceding sections required data qualifiers, the most restrictive qualifier has been added to the data.

In general, all unqualified data can be used without restriction. The usefulness of qualified data should be treated according to the severity of the qualifier. Should questions arise regarding the qualification of data and its relation to the usefulness, the reader is encouraged to contact the Region 10 laboratory.

DATA QUALIFIERS

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

EXP - The result is equal to the number before EXP times 10 to the power of the number after EXP. As an example 3EXP6 equals 3×10^6.

REJ - The data are unusable for all purposes.

N - There is evidence the analyte is present in this sample.

NJ - There is evidence that the analyte is present. The associated numerical result is an estimate.

UJ - The analyte was not detected at or above the reported estimated result. The associated numerical value is an estimate of the quantitation limit of the analyte in this sample.

NAF - Not analyzed for.

* - The analyte was present in the sample. (Visual aid to locate detected compounds on the report sheet.)

Project: TEC-575A AVERY RR DUMP AND ROUNDHOUSE Officer: MZR Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 92 352351 Description: WAW01 Source: Well (Drinking Water Supply)

Begin Date: 92/08/26 08:37

B/N/Acid Scan	Water-Total Result	Units
Benzo(a)pyrene	2U	ug/l
2,4-Dinitrophenol	26UJ	ug/l
Dibenzo(a,h)anthracene	5U	ug/l
Benzo(a)anthracene	2U	ug/l
4-Chloro-3-Methylphenol	10UJ	ug/l
Benzoic acid	26UJ	ug/l
Hexachloroethane	2U	ug/l
Hexachlorocyclopentadi+	10U	ug/l
Isophorone	2U	ug/l
Acenaphthene	2U	ug/l
Diethylphthalate	2UJ	ug/l
Di-n-Butylphthalate	2UJ	ug/l
Phenanthrene	2U	ug/l
Butylbenzylphthalate	5UJ	ug/l
N-Nitrosodiphenylamine	26UJ	ug/l
Fluorene	2U	ug/l
Carbazole	10UJ	ug/l
Hexachlorobutadiene	5U	ug/l
Pentachlorophenol	10U	ug/l
2,4,6-Trichlorophenol	5U	ug/l
2-Nitroaniline	5U	ug/l
2-Nitrophenol	5U	ug/l
Naphthalene, 1-Methyl-	2U	ug/l
Naphthalene	2U	ug/l
2-Methylnaphthalene	2U	ug/l
2-Chloronaphthalene	2U	ug/l
3,3'-Dichlorobenzidine	52U	ug/l
2-Methylphenol	2U	ug/l
1,2-Dichlorobenzene	2U	ug/l
o-Chlorophenol (2-Chlo+	2U	ug/l
2,4,5-Trichlorophenol	10U	ug/l
Nitrobenzene	2U	ug/l
3-Nitroaniline	REJ	ug/l
4-Nitroaniline	26U	ug/l
4-Nitrophenol	13U	ug/l
Benzyl Alcohol	41UJ	ug/l
4-Bromophenyl-phenylet+	2U	ug/l
2,4-Dimethylphenol	2U	ug/l
4-Methylphenol	2U	ug/l
1,4-Dichlorobenzene	2U	ug/l
4-Chloroaniline	26U	ug/l
Phenol	2U	ug/l
bis(2-Chloroethyl)Ether	2U	ug/l
bis(2-Chloroethoxy)Met+	2U	ug/l
BIS(2-ETHYLHEXYL) PHTH+	2UJ	ug/l

B/N/Acid Scan *** Continued ***	Water-Total Result	Units
Di-n-Octyl Phthalate	2UJ	ug/l
Hexachlorobenzene	2U	ug/l
Anthracene	2U	ug/l
1,2,4-Trichlorobenzene	2U	ug/l
2,4-Dichlorophenol	2U	ug/l
2,4-Dinitrotoluene	5UJ	ug/l
Pyrene	2U	ug/l
Dimethylphthalate	2U	ug/l
Dibenzofuran	2U	ug/l
Benzo(ghi)perylene	2U	ug/l
Indeno(1,2,3-cd)pyrene	2U	ug/l
Benzo(b)fluoranthene	2U	ug/l
Fluoranthene	2U	ug/l
Benzo(k)fluoranthene	2U	ug/l
Acenaphthylene	2U	ug/l
Chrysene	2U	ug/l
Retene	2U	ug/l
4,6-Dinitro-2-methylph+	26UJ	ug/l
1,3-Dichlorobenzene	2U	ug/l
2,6-Dinitrotoluene	5U	ug/l
N-Nitroso-di-n-Propyla+	2U	ug/l
4-Chlorophenyl-phenyle+	2U	ug/l
bis(2-Chloroisopropyl)+	2U	ug/l
Surrog: 2-Fluorobiphen+	80	% Recov
Surrog: 2-Fluorophenol	68	% Recov
D4-1,2-Dichlorobenzene	50	% Recov
Surrog: D14-Terphenyl	68	% Recov
PYRENE-D10 (SS)	71	% Recov
Surrog: D5-Nitrobenzene	74	% Recov
Surrog: D5-Phenol	56	% Recov

(Sample Complete)

Project: TEC-575A AVERY RR DUMP AND ROUNDHOUSE Officer: MZR Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 92 352352 Description: WSW01 Source: Well (Drinking Water Supply)

Begin Date: 92/08/26 09:15

B/N/Acid Scan	Water-Total Result	Units
Benzo(a)pyrene	2U	ug/l
2,4-Dinitrophenol	27UJ	ug/l
Dibenzo(a,h)anthracene	5U	ug/l
Benzo(a)anthracene	2U	ug/l
4-Chloro-3-Methylphenol	11UJ	ug/l
Benzoic acid	27UJ	ug/l
Hexachloroethane	2U	ug/l
Hexachlorocyclopentadi+	11U	ug/l
Isophorone	2U	ug/l
Acenaphthene	2U	ug/l
Diethylphthalate	2UJ	ug/l
Di-n-Butylphthalate	2UJ	ug/l
Phenanthrene	2U	ug/l
Butylbenzylphthalate	5UJ	ug/l
N-Nitrosodiphenylamine	27UJ	ug/l
Fluorene	2U	ug/l
Carbazole	11UJ	ug/l
Hexachlorobutadiene	5U	ug/l
Pentachlorophenol	11U	ug/l
2,4,6-Trichlorophenol	5U	ug/l
2-Nitroaniline	5U	ug/l
2-Nitrophenol	5U	ug/l
Naphthalene, 1-Methyl-	2U	ug/l
Naphthalene	2U	ug/l
2-Methylnaphthalene	2U	ug/l
2-Chloronaphthalene	2U	ug/l
3,3'-Dichlorobenzidine	54U	ug/l
2-Methylphenol	2U	ug/l
1,2-Dichlorobenzene	2U	ug/l
o-Chlorophenol (2-Chlo+	2U	ug/l
2,4,5-Trichlorophenol	11U	ug/l
Nitrobenzene	2U	ug/l
3-Nitroaniline	REJ	ug/l
4-Nitroaniline	27U	ug/l
4-Nitrophenol	13U	ug/l
Benzyl Alcohol	43UJ	ug/l
4-Bromophenyl-phenylet+	2U	ug/l
2,4-Dimethylphenol	2U	ug/l
4-Methylphenol	2U	ug/l
1,4-Dichlorobenzene	2U	ug/l
4-Chloroaniline	27U	ug/l
Phenol	2U	ug/l
bis(2-Chloroethyl)Ether	2U	ug/l
bis(2-Chloroethoxy)Met+	2U	ug/l
BIS(2-ETHYLHEXYL) PHTH+	2UJ	ug/l

B/N/Acid Scan *** Continued ***	Water-Total Result	Units
Di-n-Octyl Phthalate	2UJ	ug/l
Hexachlorobenzene	2U	ug/l
Anthracene	2U	ug/l
1,2,4-Trichlorobenzene	2U	ug/l
2,4-Dichlorophenol	2U	ug/l
2,4-Dinitrotoluene	5UJ	ug/l
Pyrene	2U	ug/l
Dimethylphthalate	2U	ug/l
Dibenzofuran	2U	ug/l
Benzo(ghi)perylene	2U	ug/l
Indeno(1,2,3-cd)pyrene	2U	ug/l
Benzo(b)fluoranthene	2U	ug/l
Fluoranthene	2U	ug/l
Benzo(k)fluoranthene	2U	ug/l
Acenaphthylene	2U	ug/l
Chrysene	2U	ug/l
Retene	2U	ug/l
4,6-Dinitro-2-methylph+	27UJ	ug/l
1,3-Dichlorobenzene	2U	ug/l
2,6-Dinitrotoluene	5U	ug/l
N-Nitroso-di-n-Propyla+	2U	ug/l
4-Chlorophenyl-phenyle+	2U	ug/l
bis(2-Chloroisopropyl)+	2U	ug/l
Surrog: 2-Fluorobiphen+	85	% Recov
Surrog: 2-Fluorophenol	74	% Recov
D4-1,2-Dichlorobenzene	53	% Recov
Surrog: D14-Terphenyl	76	% Recov
PYRENE-D10 (SS)	80	% Recov
Surrog: D5-Nitrobenzene	81	% Recov
Surrog: D5-Phenol	62	% Recov

(Sample Complete)

Project: TEC-575A AVERY RR DUMP AND ROUNDHOUSE Officer: MZR Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 92 352353 Description: WSW02 Source: Well (Drinking Water Supply)

Begin Date: 92/08/26 09:15

B/N/Acid Scan	Water-Total Result	Units
Benzo(a)pyrene	2U	ug/l
2,4-Dinitrophenol	25UJ	ug/l
Dibenzo(a,h)anthracene	5U	ug/l
Benzo(a)anthracene	2U	ug/l
4-Chloro-3-Methylphenol	10UJ	ug/l
Benzoic acid	25UJ	ug/l
Hexachloroethane	2UJ	ug/l
Hexachlorocyclopentadi+	10UJ	ug/l
Isophorone	2U	ug/l
Acenaphthene	2U	ug/l
Diethylphthalate	2UJ	ug/l
Di-n-Butylphthalate	2UJ	ug/l
Phenanthrene	2U	ug/l
Butylbenzylphthalate	5UJ	ug/l
N-Nitrosodiphenylamine	25UJ	ug/l
Fluorene	2U	ug/l
Carbazole	10UJ	ug/l
Hexachlorobutadiene	5U	ug/l
Pentachlorophenol	10U	ug/l
2,4,6-Trichlorophenol	5U	ug/l
2-Nitroaniline	5U	ug/l
2-Nitrophenol	5U	ug/l
Naphthalene, 1-Methyl-	2U	ug/l
Naphthalene	2U	ug/l
2-Methylnaphthalene	2U	ug/l
2-Chloronaphthalene	2U	ug/l
3,3'-Dichlorobenzidine	50U	ug/l
2-Methylphenol	2U	ug/l
1,2-Dichlorobenzene	2U	ug/l
o-Chlorophenol (2-Chlo+	2U	ug/l
2,4,5-Trichlorophenol	10U	ug/l
Nitrobenzene	2U	ug/l
3-Nitroaniline	REJ	ug/l
4-Nitroaniline	25U	ug/l
4-Nitrophenol	12U	ug/l
Benzyl Alcohol	40UJ	ug/l
4-Bromophenyl-phenylet+	2U	ug/l
2,4-Dimethylphenol	2U	ug/l
4-Methylphenol	2U	ug/l
1,4-Dichlorobenzene	2U	ug/l
4-Chloroaniline	25U	ug/l
Phenol	2U	ug/l
bis(2-Chloroethyl)Ether	2U	ug/l
bis(2-Chloroethoxy)Met+	2U	ug/l
BIS(2-ETHYLHEXYL) PHTH+	2UJ	ug/l

B/N/Acid Scan *** Continued ***	Water-Total Result	Units
Di-n-Octyl Phthalate	2UJ	ug/l
Hexachlorobenzene	2U	ug/l
Anthracene	2U	ug/l
1,2,4-Trichlorobenzene	2U	ug/l
2,4-Dichlorophenol	2U	ug/l
2,4-Dinitrotoluene	5UJ	ug/l
Pyrene	2U	ug/l
Dimethylphthalate	2U	ug/l
Dibenzofuran	2U	ug/l
Benzo(ghi)perylene	2U	ug/l
Indeno(1,2,3-cd)pyrene	2U	ug/l
Benzo(b)fluoranthene	2U	ug/l
Fluoranthene	2U	ug/l
Benzo(k)fluoranthene	2U	ug/l
Acenaphthylene	2U	ug/l
Chrysene	2U	ug/l
Retene	2U	ug/l
4,6-Dinitro-2-methylph+	25UJ	ug/l
1,3-Dichlorobenzene	2U	ug/l
2,6-Dinitrotoluene	5U	ug/l
N-Nitroso-di-n-Propyla+	2U	ug/l
4-Chlorophenyl-phenyle+	2U	ug/l
bis(2-Chloroisopropyl)+	2U	ug/l
Surrog: 2-Fluorobiphen+	89	% Recov
Surrog: 2-Fluorophenol	74	% Recov
D4-1,2-Dichlorobenzene	56	% Recov
Surrog: D14-Terphenyl	84	% Recov
PYRENE-D10 (SS)	86	% Recov
Surrog: D5-Nitrobenzene	84	% Recov
Surrog: D5-Phenol	58	% Recov

B/N/Acid Scan Matrix Spike #1	Water-Total Result	Units
Benzo(a)pyrene	73	% Recov
2,4-Dinitrophenol	64J	% Recov
Dibenzo(a,h)anthracene	71	% Recov
Benzo(a)anthracene	74	% Recov
4-Chloro-3-Methylphenol	69J	% Recov
Benzoic acid	5J	% Recov
Hexachloroethane	48	% Recov
Hexachlorocyclopentadi+	20	% Recov
Isophorone	72	% Recov

B/N/Acid Scan *** Continued *** Matrix Spike #1	Water-Total Result	Units
Acenaphthene	74	% Recov
Diethylphthalate	81J	% Recov
Di-n-Butylphthalate	75J	% Recov
Phenanthrene	78	% Recov
Butylbenzylphthalate	67J	% Recov
N-Nitrosodiphenylamine	124J	% Recov
Fluorene	78	% Recov
Carbazole	NAF	% Recov
Hexachlorobutadiene	53	% Recov
Pentachlorophenol	71	% Recov
2,4,6-Trichlorophenol	66	% Recov
2-Nitroaniline	82	% Recov
2-Nitrophenol	90	% Recov
Naphthalene, 1-Methyl-	NAF	% Recov
Naphthalene	70	% Recov
2-Methylnaphthalene	52	% Recov
2-Chloronaphthalene	70	% Recov
3,3'-Dichlorobenzidine	NAF	% Recov
2-Methylphenol	74	% Recov
1,2-Dichlorobenzene	60	% Recov
o-Chlorophenol (2-Chlo+	80	% Recov
2,4,5-Trichlorophenol	77	% Recov
Nitrobenzene	76	% Recov
3-Nitroaniline	REJ	% Recov
4-Nitroaniline	81	% Recov
4-Nitrophenol	58	% Recov
Benzyl Alcohol	66J	% Recov
4-Bromophenyl-phenylet+	72	% Recov
2,4-Dimethylphenol	68	% Recov
4-Methylphenol	74	% Recov
1,4-Dichlorobenzene	59	% Recov
4-Chloroaniline	110	% Recov
Phenol	61	% Recov
bis(2-Chloroethyl)Ether	80	% Recov
bis(2-Chloroethoxy)Met+	75	% Recov
BIS(2-ETHYLHEXYL) PHTH+	63J	% Recov
Di-n-Octyl Phthalate	62J	% Recov
Hexachlorobenzene	75	% Recov
Anthracene	79	% Recov
1,2,4-Trichlorobenzene	59	% Recov
2,4-Dichlorophenol	67	% Recov
2,4-Dinitrotoluene	78J	% Recov
Pyrene	78	% Recov
Dimethylphthalate	80	% Recov

(Continued on next page)

Project: TEC-575A AVERY RR DUMP AND ROUNDHOUSE Officer: MZR Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 92 352353 Description: WSW02 Source: Well (Drinking Water Supply)

Begin Date: 92/08/26 09:15

B/N/Acid Scan *** Continued *** Matrix Spike #1	Water-Total Result	Units
Dibenzofuran	78	% Recov
Benzo(ghi)perylene	77	% Recov
Indeno(1,2,3-cd)pyrene	71	% Recov
Benzo(b)fluoranthene	77	% Recov
Fluoranthene	78	% Recov
Benzo(k)fluoranthene	75	% Recov
Acenaphthylene	87	% Recov
Chrysene	72	% Recov
Retene	NAF	% Recov
4,6-Dinitro-2-methylph+	75J	% Recov
1,3-Dichlorobenzene	57	% Recov
2,6-Dinitrotoluene	82	% Recov
N-Nitroso-di-n-Propyla+	72	% Recov
D4-1,2-Dichlorobenzene	40	% Recov
4-Chlorophenyl-phenyle+	72	% Recov
bis(2-Chloroisopropyl)+	75	% Recov
Surrog: 2-Fluorobiphen+	72	% Recov
Surrog: 2-Fluorophenol	64	% Recov
Surrog: D14-Terphenyl	63	% Recov
PYRENE-D10 (SS)	66	% Recov
Surrog: D5-Nitrobenzene	69	% Recov
Surrog: D5-Phenol	55	% Recov

B/N/Acid Scan Matrix Spike #2	Water-Total Result	Units
Benzo(a)pyrene	81	% Recov
2,4-Dinitrophenol	98J	% Recov
Dibenzo(a,h)anthracene	82	% Recov
Benzo(a)anthracene	85	% Recov
4-Chloro-3-Methylphenol	82J	% Recov
Benzoic acid	21J	% Recov
Hexachloroethane	60	% Recov
Hexachlorocyclopentadi+	23	% Recov
Isophorone	86	% Recov
Acenaphthene	86	% Recov
Diethylphthalate	92J	% Recov
Di-n-Butylphthalate	86J	% Recov
Phenanthrene	90	% Recov
Butylbenzylphthalate	80J	% Recov
N-Nitrosodiphenylamine	131J	% Recov
Fluorene	90	% Recov
Carbazole	NAF	% Recov

B/N/Acid Scan *** Continued *** Matrix Spike #2	Water-Total Result	Units
Hexachlorobutadiene	67	% Recov
Pentachlorophenol	86	% Recov
2,4,6-Trichlorophenol	76	% Recov
2-Nitroaniline	99	% Recov
2-Nitrophenol	106	% Recov
Naphthalene, 1-Methyl-	NAF	% Recov
Naphthalene	80	% Recov
2-Methylnaphthalene	59	% Recov
2-Chloronaphthalene	79	% Recov
3,3'-Dichlorobenzidine	NAF	% Recov
2-Methylphenol	85	% Recov
1,2-Dichlorobenzene	70	% Recov
o-Chlorophenol (2-Chlo+	90	% Recov
2,4,5-Trichlorophenol	89	% Recov
Nitrobenzene	89	% Recov
3-Nitroaniline	REJ	% Recov
4-Nitroaniline	92	% Recov
4-Nitrophenol	68	% Recov
Benzyl Alcohol	80J	% Recov
4-Bromophenyl-phenylet+	84	% Recov
2,4-Dimethylphenol	81	% Recov
4-Methylphenol	86	% Recov
1,4-Dichlorobenzene	69	% Recov
4-Chloroaniline	130	% Recov
Phenol	73	% Recov
bis(2-Chloroethyl)Ether	92	% Recov
bis(2-Chloroethoxy)Met+	88	% Recov
BIS(2-ETHYLHEXYL) PHTH+	74J	% Recov
Di-n-Octyl Phthalate	73J	% Recov
Hexachlorobenzene	88	% Recov
Anthracene	90	% Recov
1,2,4-Trichlorobenzene	68	% Recov
2,4-Dichlorophenol	80	% Recov
2,4-Dinitrotoluene	92J	% Recov
Pyrene	94	% Recov
Dimethylphthalate	90	% Recov
Dibenzofuran	88	% Recov
Benzo(ghi)perylene	87	% Recov
Indeno(1,2,3-cd)pyrene	82	% Recov
Benzo(b)fluoranthene	88	% Recov
Fluoranthene	88	% Recov
Benzo(k)fluoranthene	87	% Recov
Acenaphthylene	99	% Recov
Chrysene	86	% Recov

B/N/Acid Scan *** Continued *** Matrix Spike #2	Water-Total Result	Units
Retene	NAF	% Recov
4,6-Dinitro-2-methylph+	91J	% Recov
1,3-Dichlorobenzene	68	% Recov
2,6-Dinitrotoluene	95	% Recov
N-Nitroso-di-n-Propyla+	84	% Recov
D4-1,2-Dichlorobenzene	55	% Recov
4-Chlorophenyl-phenyle+	82	% Recov
bis(2-Chloroisopropyl)+	91	% Recov
Surrog: 2-Fluorobiphen+	91	% Recov
Surrog: 2-Fluorophenol	78	% Recov
Surrog: D14-Terphenyl	79	% Recov
PYRENE-D10 (SS)	85	% Recov
Surrog: D5-Nitrobenzene	86	% Recov
Surrog: D5-Phenol	69	% Recov

(Sample Complete)

Project: TEC-575A AVERY RR DUMP AND ROUNDHOUSE Officer: MZR Account: FA10PUZZ

Laboratory: EPA, Manchester

Sample No: 92 352354 Description: WHC01 Source: Well (Test/Observation)

Begin Date: 92/08/26 10:20

B/N/Acid Scan	Water-Total Result	Units
Benzo(a)pyrene	41U	ug/l
2,4-Dinitrophenol	510UJ	ug/l
Dibenzo(a,h)anthracene	100U	ug/l
Benzo(a)anthracene	41U	ug/l
4-Chloro-3-Methylphenol	200UJ	ug/l
Benzoic acid	510UJ	ug/l
Hexachloroethane	41U	ug/l
Hexachlorocyclopentadi+	200U	ug/l
Isophorone	41U	ug/l
Acenaphthene	54 *	ug/l
Diethylphthalate	41UJ	ug/l
Di-n-Butylphthalate	41UJ	ug/l
Phenanthrene	230 *	ug/l
Butylbenzylphthalate	100UJ	ug/l
N-Nitrosodiphenylamine	510UJ	ug/l
Fluorene	150 *	ug/l
Carbazole	200UJ	ug/l
Hexachlorobutadiene	100U	ug/l
Pentachlorophenol	200U	ug/l
2,4,6-Trichlorophenol	100U	ug/l
2-Nitroaniline	100U	ug/l
2-Nitrophenol	100U	ug/l
Naphthalene, 1-Methyl-	840 *	ug/l
Naphthalene	130 *	ug/l
2-Methylnaphthalene	630 *	ug/l
2-Chloronaphthalene	41U	ug/l
3,3'-Dichlorobenzidine	1000U	ug/l
2-Methylphenol	41U	ug/l
1,2-Dichlorobenzene	41U	ug/l
o-Chlorophenol (2-Chlo+	41U	ug/l
2,4,5-Trichlorophenol	200U	ug/l
Nitrobenzene	41U	ug/l
3-Nitroaniline	REJ	ug/l
4-Nitroaniline	510U	ug/l
4-Nitrophenol	260U	ug/l
Benzyl Alcohol	820UJ	ug/l
4-Bromophenyl-phenylet+	41U	ug/l
2,4-Dimethylphenol	41U	ug/l
4-Methylphenol	41U	ug/l
1,4-Dichlorobenzene	41U	ug/l
4-Chloroaniline	510U	ug/l
Phenol	41U	ug/l
bis(2-Chloroethyl)Ether	41U	ug/l
bis(2-Chloroethoxy)Met+	41U	ug/l
BIS(2-ETHYLHEXYL) PHTH+	41UJ	ug/l

B/N/Acid Scan *** Continued ***	Water-Total Result	Units
Di-n-Octyl Phthalate	41UJ	ug/l
Hexachlorobenzene	41U	ug/l
Anthracene	41U	ug/l
1,2,4-Trichlorobenzene	41U	ug/l
2,4-Dichlorophenol	41U	ug/l
2,4-Dinitrotoluene	100UJ	ug/l
Pyrene	19J*	ug/l
Dimethylphthalate	41U	ug/l
Dibenzofuran	41U	ug/l
Benzo(ghi)perylene	41U	ug/l
Indeno(1,2,3-cd)pyrene	41U	ug/l
Benzo(b)fluoranthene	41U	ug/l
Fluoranthene	15J*	ug/l
Benzo(k)fluoranthene	41U	ug/l
Acenaphthylene	41U	ug/l
Chrysene	41U	ug/l
Retene	41U	ug/l
4,6-Dinitro-2-methylph+	510UJ	ug/l
1,3-Dichlorobenzene	41U	ug/l
2,6-Dinitrotoluene	100U	ug/l
N-Nitroso-di-n-Propyla+	41U	ug/l
4-Chlorophenyl-phenyle+	41U	ug/l
bis(2-Chloroisopropyl)+	41U	ug/l
Surrog: 2-Fluorobiphen+	114	% Recov
Surrog: 2-Fluorophenol	59	% Recov
D4-1,2-Dichlorobenzene	116	% Recov
Surrog: D14-Terphenyl	90	% Recov
PYRENE-D10 (SS)	77	% Recov
Surrog: D5-Nitrobenzene	0	% Recov
Surrog: D5-Phenol	0	% Recov

Tent Ident - B/N/Aci	Water-Total Result	Units
NAPHTHALENE, 1,5-DIMET+	430NJ*	ug/l
NAPHTHALENE, 1,2-DIMET+	510NJ*	ug/l
NAPHTHALENE, 1,3-DIMET+	1200NJ*	ug/l
NAPHTHALENE, 2,7-DIMET+	1000NJ*	ug/l
NAPHTHALENE, 2,3,6-TRI+	590NJ*	ug/l
NAPHTHALENE, 2-ETHYL-	420NJ*	ug/l
UNKNOWN HYDROCARBONS (+	220000NJ*	ug/l
NAPHTHALENE, 1,4,5-TRI+	460NJ*	ug/l
NAPHTHALENE, 1,4,6-TRI+	480NJ*	ug/l

Tent Ident - B/N/Aci *** Continued ***	Water-Total Result	Units
NAPHTHALENE, 1,6,7-TRI+	480NJ*	ug/l

(Sample Complete)

Project: TEC-575A AVERY RR DUMP AND ROUNDHOUSE Officer: MZR Account: FA10PUZZ

Blank ID: BW2245D1

B/N/Acid Scan Blank #1	Water-Total Result	Units
Benzo(a)pyrene	8U	ug/l
2,4-Dinitrophenol	100UJ	ug/l
Dibenzo(a,h)anthracene	20U	ug/l
Benzo(a)anthracene	8U	ug/l
4-Chloro-3-Methylphenol	40UJ	ug/l
Benzoic acid	100UJ	ug/l
Hexachloroethane	8U	ug/l
Hexachlorocyclopentadi+	40U	ug/l
Isophorone	8U	ug/l
Acenaphthene	8U	ug/l
Diethylphthalate	8UJ	ug/l
Di-n-Butylphthalate	8UJ	ug/l
Phenanthrene	8U	ug/l
Butylbenzylphthalate	20UJ	ug/l
N-Nitrosodiphenylamine	0.6J*	ug/l
Fluorene	8U	ug/l
Carbazole	40UJ	ug/l
Hexachlorobutadiene	20U	ug/l
Pentachlorophenol	40U	ug/l
2,4,6-Trichlorophenol	20U	ug/l
2-Nitroaniline	20U	ug/l
2-Nitrophenol	20U	ug/l
Naphthalene, 1-Methyl-	8U	ug/l
Naphthalene	8U	ug/l
2-Methylnaphthalene	8U	ug/l
2-Chloronaphthalene	8U	ug/l
3,3'-Dichlorobenzidine	200U	ug/l
2-Methylphenol	8U	ug/l
1,2-Dichlorobenzene	8U	ug/l
o-Chlorophenol (2-Chlo+	8U	ug/l
2,4,5-Trichlorophenol	40U	ug/l
Nitrobenzene	8U	ug/l
3-Nitroaniline	REJ	ug/l
4-Nitroaniline	100U	ug/l
4-Nitrophenol	50U	ug/l
Benzyl Alcohol	160UJ	ug/l
4-Bromophenyl-phenylet+	8U	ug/l
2,4-Dimethylphenol	8U	ug/l
4-Methylphenol	8U	ug/l
1,4-Dichlorobenzene	8U	ug/l
4-Chloroaniline	100U	ug/l
Phenol	8U	ug/l
bis(2-Chloroethyl)Ether	8U	ug/l
bis(2-Chloroethoxy)Met+	8U	ug/l
BIS(2-ETHYLHEXYL) PHTH+	8UJ	ug/l

B/N/Acid Scan *** Continued *** Blank #1	Water-Total Result	Units
Di-n-Octyl Phthalate	8UJ	ug/l
Hexachlorobenzene	8U	ug/l
Anthracene	8U	ug/l
1,2,4-Trichlorobenzene	8U	ug/l
2,4-Dichlorophenol	8U	ug/l
2,4-Dinitrotoluene	20UJ	ug/l
Pyrene	8U	ug/l
Dimethylphthalate	8U	ug/l
Dibenzofuran	8U	ug/l
Benzo(ghi)perylene	8U	ug/l
Indeno(1,2,3-cd)pyrene	8U	ug/l
Benzo(b)fluoranthene	8U	ug/l
Fluoranthene	8U	ug/l
Benzo(k)fluoranthene	8U	ug/l
Acenaphthylene	8U	ug/l
Chrysene	8U	ug/l
Retene	8U	ug/l
4,6-Dinitro-2-methylph+	100UJ	ug/l
1,3-Dichlorobenzene	8U	ug/l
2,6-Dinitrotoluene	20U	ug/l
N-Nitroso-di-n-Propyla+	8U	ug/l
4-Chlorophenyl-phenyle+	8U	ug/l
bis(2-Chloroisopropyl)+	8U	ug/l
Surrog: 2-Fluorobiphen+	69	% Recov
Surrog: 2-Fluorophenol	81	% Recov
D4-1,2-Dichlorobenzene	26	% Recov
Surrog: D14-Terphenyl	83	% Recov
PYRENE-D10 (SS)	87	% Recov
Surrog: D5-Nitrobenzene	82	% Recov
Surrog: D5-Phenol	74	% Recov

Tent Ident - B/N/Aci Blank #1	Water-Total Result	Units
Triphenyl phosphate	1.8NJ*	ug/l

(Sample Complete)

Project: TEC-575A AVERY RR DUMP AND ROUNDHOUSE Officer: MZR Account: FA10PUZZ

Blank ID: BW2245D2

B/N/Acid Scan Blank #2	Water-Total Result	Units
Benzo(a)pyrene	8U	ug/l
2,4-Dinitrophenol	100UJ	ug/l
Dibenzo(a,h)anthracene	20U	ug/l
Benzo(a)anthracene	8U	ug/l
4-Chloro-3-Methylphenol	40U	ug/l
Benzoic acid	100UJ	ug/l
Hexachloroethane	8U	ug/l
Hexachlorocyclopentadi+	40U	ug/l
Isophorone	8U	ug/l
Acenaphthene	0.4J*	ug/l
Diethylphthalate	8U	ug/l
Di-n-Butylphthalate	8U	ug/l
Phenanthrene	1J*	ug/l
Butylbenzylphthalate	20U	ug/l
N-Nitrosodiphenylamine	100UJ	ug/l
Fluorene	8U	ug/l
Carbazole	40UJ	ug/l
Hexachlorobutadiene	20U	ug/l
Pentachlorophenol	40U	ug/l
2,4,6-Trichlorophenol	20U	ug/l
2-Nitroaniline	20U	ug/l
2-Nitrophenol	20U	ug/l
Naphthalene, 1-Methyl-	4J*	ug/l
Naphthalene	0.6J*	ug/l
2-Methylnaphthalene	3J*	ug/l
2-Chloronaphthalene	8U	ug/l
3,3'-Dichlorobenzidine	200U	ug/l
2-Methylphenol	8U	ug/l
1,2-Dichlorobenzene	8U	ug/l
o-Chlorophenol (2-Chlo+	8U	ug/l
2,4,5-Trichlorophenol	40U	ug/l
Nitrobenzene	8U	ug/l
3-Nitroaniline	100U	ug/l
4-Nitroaniline	100U	ug/l
4-Nitrophenol	50U	ug/l
Benzyl Alcohol	160U	ug/l
4-Bromophenyl-phenylet+	8U	ug/l
2,4-Dimethylphenol	8U	ug/l
4-Methylphenol	8U	ug/l
1,4-Dichlorobenzene	8U	ug/l
4-Chloroaniline	100U	ug/l
Phenol	8U	ug/l
bis(2-Chloroethyl)Ether	8U	ug/l
bis(2-Chloroethoxy)Met+	8U	ug/l
BIS(2-ETHYLHEXYL) PHTH+	0.9J*	ug/l

B/N/Acid Scan *** Continued *** Blank #2	Water-Total Result	Units
Di-n-Octyl Phthalate	8UJ	ug/l
Hexachlorobenzene	8U	ug/l
Anthracene	8U	ug/l
1,2,4-Trichlorobenzene	8U	ug/l
2,4-Dichlorophenol	8U	ug/l
2,4-Dinitrotoluene	20U	ug/l
Pyrene	8U	ug/l
Dimethylphthalate	8U	ug/l
Dibenzofuran	8U	ug/l
Benzo(ghi)perylene	8U	ug/l
Indeno(1,2,3-cd)pyrene	8U	ug/l
Benzo(b)fluoranthene	8U	ug/l
Fluoranthene	8U	ug/l
Benzo(k)fluoranthene	8U	ug/l
Acenaphthylene	8U	ug/l
Chrysene	8U	ug/l
Retene	8U	ug/l
4,6-Dinitro-2-methylph+	100UJ	ug/l
1,3-Dichlorobenzene	8U	ug/l
2,6-Dinitrotoluene	20U	ug/l
N-Nitroso-di-n-Propyla+	8U	ug/l
4-Chlorophenyl-phenyle+	8U	ug/l
bis(2-Chloroisopropyl)+	8U	ug/l
Surrog: 2-Fluorobiphen+	68	% Recov
Surrog: 2-Fluorophenol	80	% Recov
D4-1,2-Dichlorobenzene	29	% Recov
Surrog: D14-Terphenyl	81	% Recov
PYRENE-D10 (SS)	84	% Recov
Surrog: D5-Nitrobenzene	74	% Recov
Surrog: D5-Phenol	76	% Recov

Tent Ident - B/N/Aci Blank #2	Water-Total Result	Units
Triphenyl phosphate	3.0NJ*	ug/l
NAPHTHALENE, 1,5-DIMET+	3.6NJ*	ug/l
NAPHTHALENE, 1,2-DIMET+	5.9NJ*	ug/l
NAPHTHALENE, 1,3-DIMET+	5.4NJ*	ug/l
UNKNOWN HYDROCARBONS (+	92NJ*	ug/l
NAPHTHALENE, 1,4,5-TRI+	2.8NJ*	ug/l
NAPHTHALENE, 1,4,6-TRI+	3.4NJ*	ug/l
NAPHTHALENE, 1,6,7-TRI+	2.5NJ*	ug/l

(Sample Complete)